

FIG._2

Germline Ig Alpha-2 Probe

CTCTGCTAAGGACAGACGGGCCATCAAGGCAGGACCTGGGCCGGGCCAGGGCTCCCTCCACAGCAGCCCTCTTGGCAGG
CAGCCAGACGCCCGGTGAGGTGGACCTGCCATGAGGGCTGCACGCCGGAGGCCGCCACTCAGCACTGCGGGCCCTCCA
GCAGCTGACCAAGCATCCCGACAGCCCCAAGGTCTTCCCGCTGAGCCTCGACAGCACCCCCCAAGATGGGAACGTGGT
CGTCGCATGCCCTGGTCCAGGGCTTCTTCCCCCAGGAGCCACTCAGTGTGACCTGGAGCGAAAGCGGACAGAACGTGACCG
CCAGAAACTTCCCACTAGCCAGGATGCCCTCCGGGACCTGTACACCAAGCAGCAGCCAGCTGACCTGCCGGCCACACAG
TGCCAGACGGCAAGTCCGTGACATGCCACGTGAAGCACTACACGAATCCAGCCAGGATGTGACTGTGCCCTGCCCCAGT
TCCCCACCTCCCCCATGTCTGCCACCCCCGACTGTCTGTCACCGACCGGCC

Germline Ig Epsilon Probe

GGTCCACTGCCCCGGCACAGAAATAACAACCAACCGTTACTGATCATCTGGGAGCTGTCCAGGAACCCGACAGGGAGCCGG
ACGGGCCACACCATCCACAGGCACCAATGACGACCCGGCGCTTCAGCCTCCACACAGAGCCCATCCGTCTTCCCCCTTG
ACCCGCTGTGCAAAAACATTCCCTCCAATGCCACCTCCGTG

Germline Ig Gamma 1 Probe

ACACACCAGAGGCTGACTGAGGCCCTCCAGGACGACCGGGCTGGGAGCACGAGGAACATGACTGGATGCGGCAGAGCCGGC
CGTGGGTGATGCCAGGATGGGCACGACCGACCTGAGCTCAGGAGGCAGCAGAGCGAGGAGGAGAGGCCCCAGGTG
AACGGAGGGGCTTGTCCAGGCCGGCAGCATCACCGGAGCCCAAGGCAGGGTCAGCAGTGTGGCCGTGGGGCCCTCCTCT
CAGCCAGGACCAAGGACAGCAGCCTCCACCAAGGGCCCATCGGTCTTCCCTGGCACCTCTCCAAAGACACCTCTGG
GGGCACAGCGGCCCTGGGTGCCCTGCTCAAGGACTACTTCCCCGAACCGGTGACGGTGTCTGGAACCTCAGGCGCCCTGA
CCAGCGGCGTGACACCTTCCCGGCTGTCTACAGTCCCTCAGGACTCTACTCCCTCAGCAGCGTGGTACCGTGGCCCTCC
AGCAGCTTGGGCACCCAGACCTACATCTGCAACGTGAATCACAAAGCCAGCAACACCAAGGTGGACAAAGATTGAGCC
CAAACTTGTGACAAACTCACACATGCCCAACCG

FIG.-3A

Germline Ig Gamma 2 Probe

CCAAAGCCAAACAGGGCAGGACACACAGAGGCTGACTGAGGCCCTCCATGACGACCAGGCTGGGAGCACGAGGAACATGACG
GGATGCGGCAGAGCCGGCCGTGGGTGATGCCAGCATGGCAGGACCCACCTGAGCTGAGGAGGCAGTAGAACGAGGGAG
GAGGAGAGGCCCCAGGTGAACGGAGGGCTTGTCAGGCCAGCAGCATCACTGGAGCCAGGGCAGGGTCAGCAGTGCTG
GCCGTGGGGCCCTCTCTCAGCCAGGACCAAGGACAGCAGCCTCCACCAAGGCCCATCGGTCTTCCCCCTGGCGCCCTGC
TCCAGGAGCACCTCCGAGAGCACAGCGGCCCTGGCTGCCCTGCTCAAGGACTACTTCCCCGAACCGGTGACGGTGTCGTG
GAACTCAGGCGCTTGACCAAGCGGCGTGACACCTTCCAGCTGTCTACAGTCTCAGGACTCTACTCCCTCAGCAGCG
TGGTGACCGTGCCCTCCAGCAACTTCGGCACCCAGACCTACACCTGCAACGTAGATCAAAAGCCCAAGCAACCAAGGTG
GACAAGACAGTTGAGCGCAATGTTGTGTCGAGTGCCCAACCGTGCCAGCACCACTGTGTGCGCAGGACCGTCA

Germline Ig Gamma 3 Probe

ACACACAGAGGCTGACTGAGGCCCTCCAGGACGACCGGGCTGGGAGCGTGAAGAAACATGACGGGATGGGGCAGAGCCAGC
CATGGGTGATGCCAGGATGGGCATGACCGACCTGAGCTCAGGAGGCAGCAGAGAGGGAGGAGGAGAGGCCCCAGGTG
AACCAGGGGCTTGTCAGGCCGCGCAGCATCAACGGAGCCAGGGCAGGGTCAGCAGAGCTGGCCGTAGGGCCCTCCTCT
CAGCCAGGACCAAGACAGCAGCTTCCACCAAGGCCCATCGGTCTTCCCCCTGGCGCCCTGCTCCAGGACACCTCTGG
GGCACAGCGGCCCTGGCTGCTGCTCAAGGACTACTTCCCCGAACCGGTGACGGTGTCTGTGAACTCAGGCGCCCTGA
CCAGCGGCTGACACCTTCCCGCTGTCTCTACAGTCTCAGGACTCTACTCCCTCAGCAGCGTGTGACCGTGCCTCC
AGCAGCTTGGGCACCCAGACCTACCTGCAACGTGAATCACAAAGCCAGCAACACCAAGGTGGACAAGAGATTGAGCT
CAAAACCCCACTTGTGACACAACTCACACATGCCCCACGGTGCCCAAGAGCCCAAAATCTTGTGACACACCTCCCCGTGCC
CACGGTGCCC

Germline Ig Gamma 4 Probe

GGCCAGCACCATGGAAGCCCAAGCGAGGCCAGCACGGGGGAGGTGGGAGCCTTCAGGCACTGATGCCCAACCCAGTG
GAGACGACGGGACCGTGGGCAGGGGCTTCAAAGCCAAACAGGGCAGGACACACCAAGAGGCTGACTGAGGCCTCCAGGACG
ACCGGCTGGGAGCACGAGGAACATGACGGGATGCGGCAGAAACCGGCCGTGGGTGATGCCAGGATGGGCACGACCGAC
TGAGCTCAGGAGGCAGCAGAGCGAGGAGGAGGAGGCCCAAGGTGAACGGAGGGGCTTGTCCAGGCCGGCAGCATCAC
CAGAGCCCAAGGCAAGGTACGAGAGCTGGCCGTAGGGCCCTCTCTCAGCCAGGACCAAGGACAGCAGCTTCCACCAAG
GGCCATCCGTCTTCCCCCTGGCGCCCTGTCTCAGGAGCACCTCCGAGAGCACAGCCGCCCTGGGTGCTGCTGTCGTC
CTACTTCCCGAACCAGGTGACGGTGTCTGTGAACTCAGGCGCCCTGACCAAGCGGCGTGACACCTTCCCGGTGTCCTAC
AGTCTCAGGACTCTACTCCCTCAGCAGCGTGTGACCGTGCCTCCAGCAGCTTGGGCACGAAGACCTACACCTGCAAC
GTAGATCACAAAGCCAGCAACACCAAGGTGGACAAGAGATTGAGTCCAAATATGGTCCCCCGTC

FIG. 3B

Germline Ig Alpha-1 Probe

GGCCTGGGCGGGCCAGGGCTCCCTCCACAGCAGCCCTCTTGGCAGGCAGCCAGAGCCCGTGAGGGTGAGACCTGCCCCA
TGAGGGCTGCACGCGGAGGCGGCCCACTCAGCACTGCGGGCCCTCCAGCAGCCTGACCAATCCCCGACAGCCCCCA
AGGTCTTCCCGTGAAGCTCTGCAGCACCCAGCAGATGGAAACGTGTCATCGCTGGTCCAGGGCTTCTTCCCC
CAGGAGCCACTCAGTGTGACCTGGAGCGAAAGCGGACAGGGCGTGACCGCCAGAACTTCCACCCAGCCAGGATGCCTC
CGGGACCTGTACACCAAGCAGCAGCCAGCTGACCTGCGGCCACACAGTGCTAGCCGGCAAGTCCGTGACATGCCAC

Germline Ig Alpha-2 Probe

CTCTGCTAAGGACAGACGGCCATCAAGGCAGGACCTGGGCGGGCCAGGGCTCCCTCCACAGCAGCCCTCTTGGCAGG
CAGCCAGACGCCCCGTGAGGGTGACCTGCCATGAGGGCTGCACGCCGAGGCCGCCCACTCAGCACTGCGGGCCCTCCA
GCAGCTGACCAAGCATCCCCGACAGCCCCCAAGTCTTCCCGCTGAGCTCGACAGCACCCCCCAAGATGGGAACGTGGT
CGTCGATGCCCTGGTCCAGGGCTTCTTCCCCCAGGAGCCACTCAGTGTGACCTGGAGCGAAAGCGGACAGAACGTGACCG
CCAGAACTTCCCACTAGCCAGGATGCCCTCCGGGACCTGTACACCAGCAGCCAGCTGACCCCTGCGGGCCACACAG
TGCCCCAGACGGCAAGTCCGTGACATGCCAC

Germline Ig Epsilon Probe

GGCTCCACTGCCCCGGCACAGAAATAACAACCAAGTTACTGATCATCTGGGAGCTGTCCAGGAACCCGACAGGAGCCGG
ACGGGCCACACCATCCACAGGCACCAATAATGGACGACCCGGCGCTTCAGCCTCCACAGAGCCCATCCGTCTTCCCCCTTG
ACCCGCTGCTGCAAAAACATTCCCTCCAAATGCCACCTCCGTG

Germline Ig Gamma 1 Probe

ACACACCAGAGGCTGACTGAGGCCCTCCAGGACGACCGGGCTGGGAGCACGAGGAACATGACTGGATGCGGCAGAGCCGGC
CGTGGGGTGATGCCAGGATGGGCACGACCGACCTGAGCTCAGAGGCAGCAGAGCGGAGGAGGAGGCCCCAGGTG
AACGAGGGGCTTGTCCAGGCCCGGACGATCACCGGAGCCACAGGCAAGGTGAGTGTGGCCCGTGGGCCCTCTCT
CAGCCAGGACCAAGGACAGCAGCCTCCACCAAGGGCCCATCGGTCTTCCCCCTGGCACCCCTCTCCAAAGACACCTCTGG
GGGCACAGCGGCCCTGGGCTGCCCTGGTCAAGGACTACTTCCCCGAACCGG

FIG. 4A

Germline Ig Gamma 2 Probe

CAAAGCCAAAGGGCAGGACACACAGAGGCTGACTGAGGCCCTCCATGACGACCAGGCTGGAGCACGAGGAACATGACG
GGATGGGCAGAGCCGGCCGTGGGTGATGCCAGCATGGGCAGGACCCACCTGAGCTGAGGAGGCAGTAGAACGAGGGAG
GAGGAGAGGCCCCAGGTGAACGGAGGGGCTTGTCAGGCCAGCAGCATCACTGGAGCCAGGGCAGGGTCAGCAGTGCTG
GCCGTGGGGCCCTCTCTCAGCCAGGACCAAGGACAGCAGCTCCACCAAGGGCCCATCGGTCTTCCCCCTGGCGCCCTGC
TCCAGGAGCACCTCCGAGAGCACAGCGGCCCTGGGCTGCCTGGTCAAGGACTACTTCCCCGAACCGG

Germline Ig Gamma 3 Probe

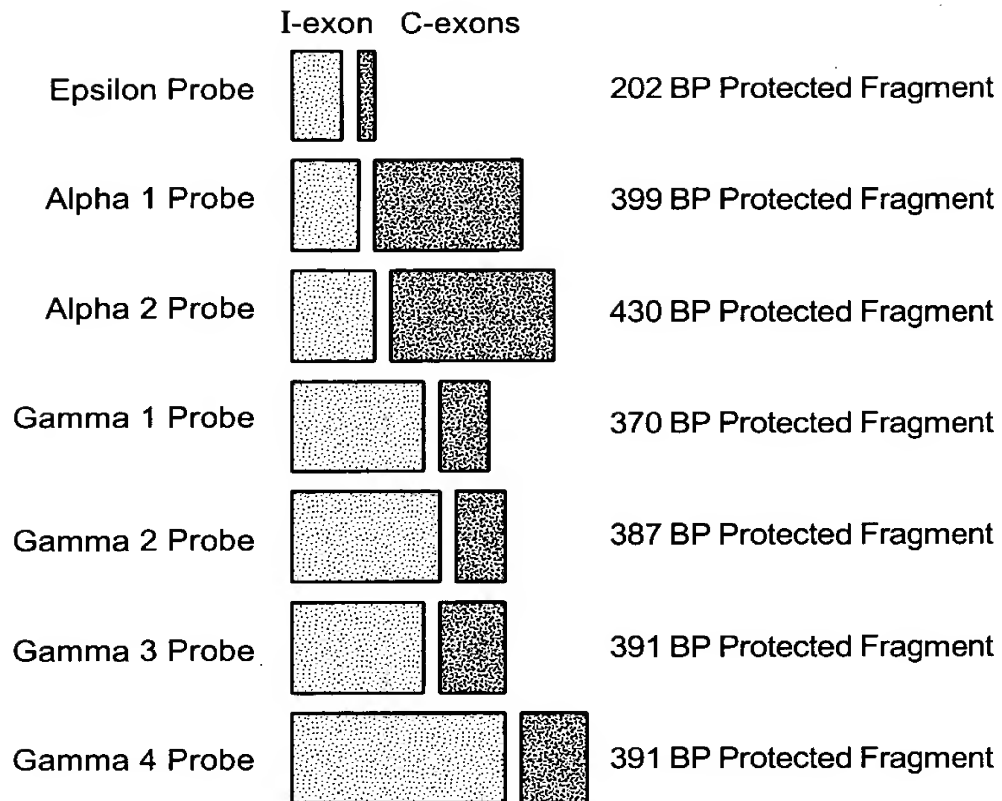
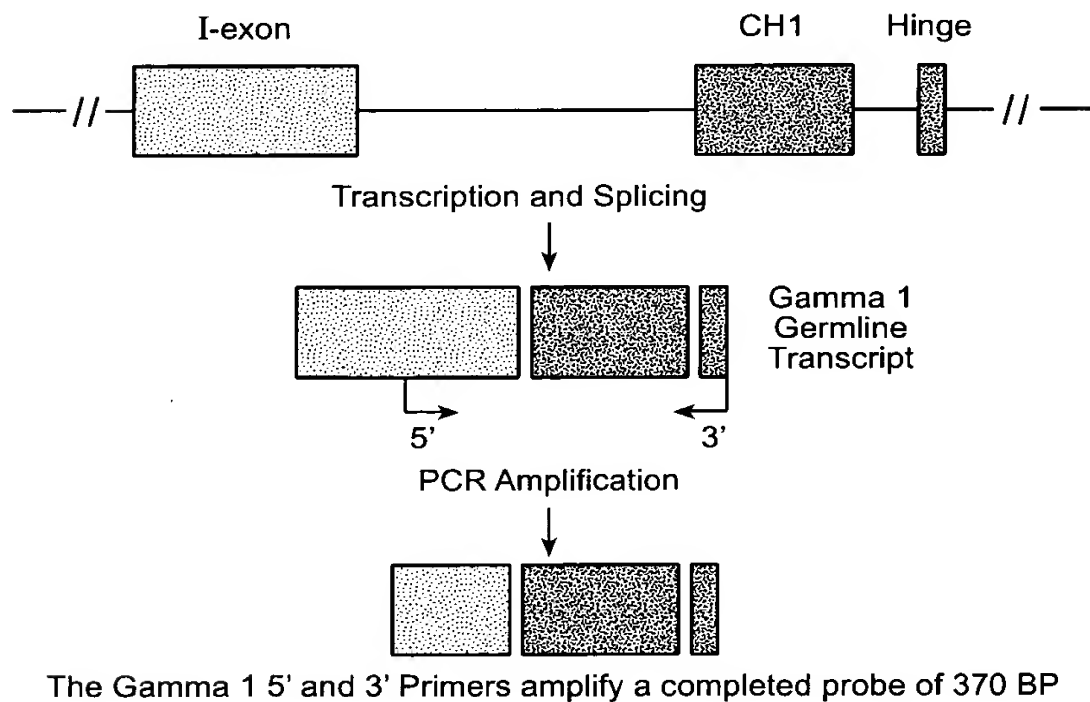
ACACACCAGAGGCTGACTGAGGCCCTCCAGGACGACCGGGCTGGAGCGTGAGGAACATGACGGGATGGGGCAGAGCCAGC
CATGGGTGATGCCAGGATGGGCATGACCGACCTGAGCTCAGGAGGCAGCAGAGAGAGGGAGGAGAGGCCCCAGGTG
AACCGAGGGGCTTGTCAGGCCGGCAGCATCACCGGAGCCAGGGCAGGGTCAGCAGAGCTGGCCGTAGGGCCCTCCTCT
CAGCCAGGACCAAGGACAGCAGCTTCCACCAAGGGCCCATCGGTCTTCCCCCTGGCGCCCTGCTCCAGGAGCACCTCTGG
GGGCACAGCGGCCCTGGGCTGCCTGGTCAAGGACTACTTCCCCGAACCGGTGACGGTGTCTGGAACTCAG

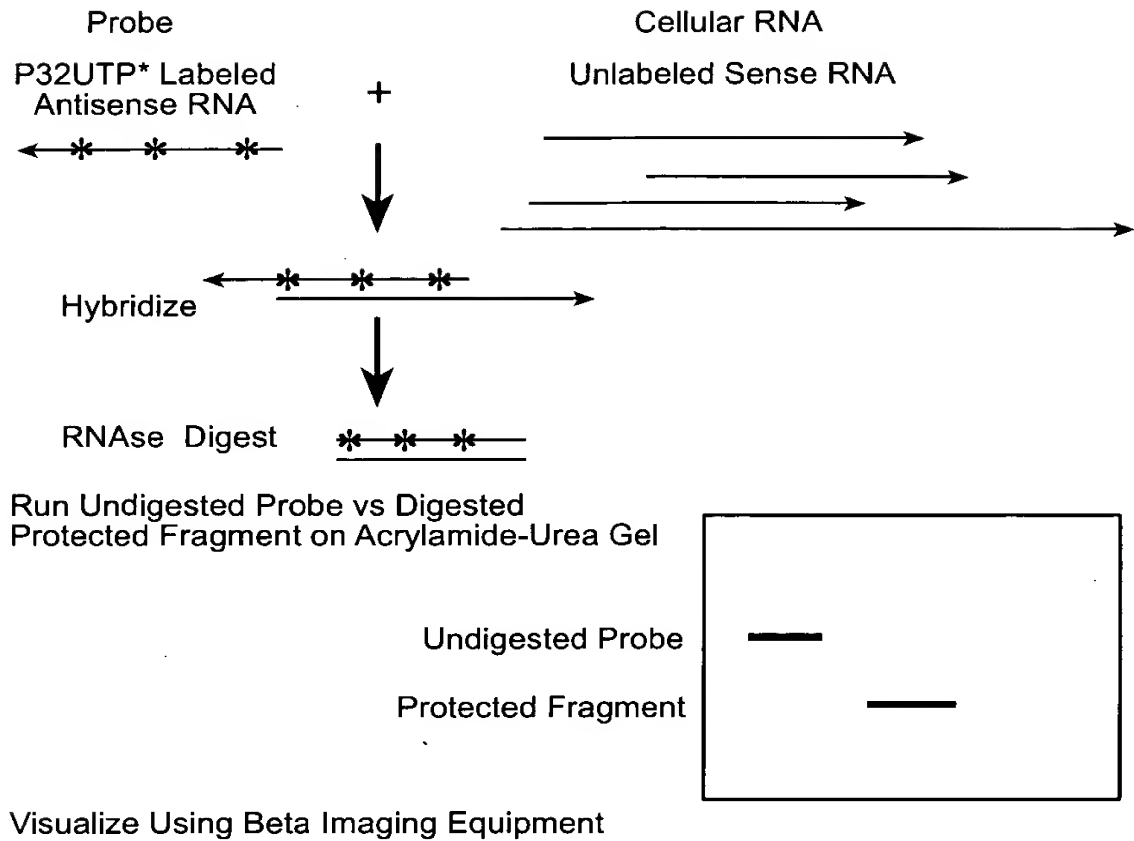
Germline Ig Gamma 4 Probe

GGCCAGCACCATGGAAGCCCAAGCGAGCCAGCACGGGGGAGGTGGGCAGCCTTCAGGCACTGATGCCACCCAGTGTC
GAGACGACGGGACCGTGGCAGGGGCTTCCAAAGCCAAACAGGGCAGGACACACAGAGGCTGACTGAGGCCCTCCAGGACG
ACCGGGCTGGGAGCACGAGGAACATGACGGGATGCGGCAGAACCGGCCGTGGGTGATGCCAGGATGGGCACGACCCGACC
TGAGCTCAGGAGGCAGCAGAGCGAGGGAGGAGAGGCCCCAGGTGAACGGAGGGGCTTGTCAGGCCGGCAGCATCAC
CAGAGCCCAGGGCAGGGTCAGCAGAGCTGGCCGTAGGGCCCTCCTCTCAGCCAGGACCAAGGACAGCAGCTTCCACCAAG
GGCCCATCCGTCTTCCCCCTGGCGCCCTGTCTCCAGGAGCACCTCCGAGAGCACAGCCGCCCTGGGCTGCCCTGGTCAAGGA
CTACTTCCCCGAACCGG

FIG._4B

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**FIG._5****FIG._6**

**FIG._7**Alpha-1

L04541 = I Region Exon
BC005951 = Constant Region Exons

Alpha-2

L04541 = I Region Exon
AL389978 = Constant Region Exons

Epsilon

X56797 = I Region Exon
J00222 = Constant Region Exons

Gamma-1

A2122127 = I Region Exon
Z17370 = Constant Region Exons

Gamma-2

U39934 = I Region Exon
J00230 = Constant Region Exons

Gamma-3

AI122127 = I Region Exon
X16110 = Constant Region Exons

Gamma-4

X56796 = I Region Exon
K01316 = Constant Region Exons

FIG._9

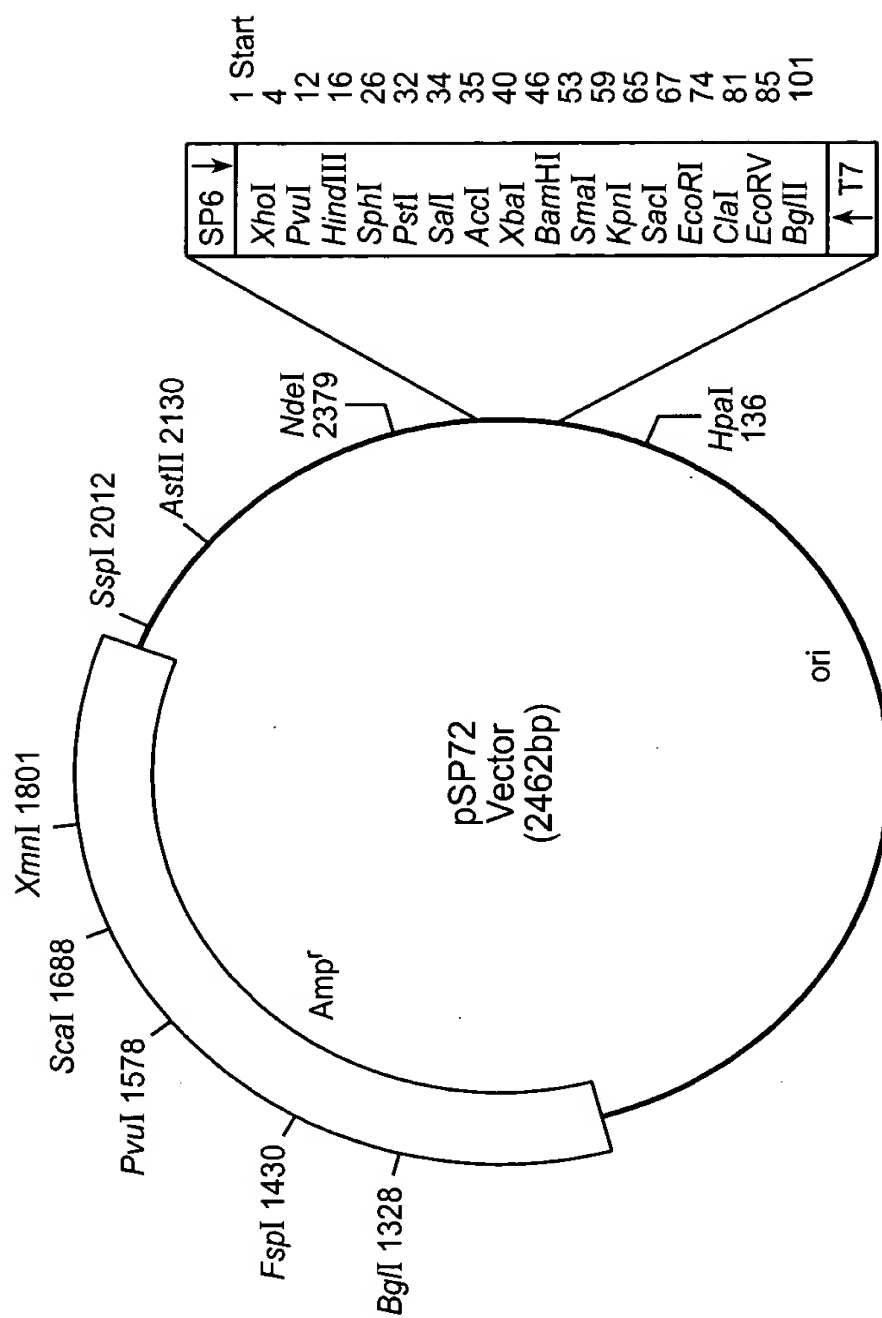


FIG._8